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THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

THE PROGRESS OF EVOLUTION¹

THE progress of evolution has various meanings. Hence it is necessary to define the subject proposed for consideration. Progress, first, may denote the spread of evolutionary doctrine. But this is patent, so that discussion is not required. Or it may mean the development of biological theory. In regard to this we need remember only that progress has of late been making, since progress here, contrary to the earlier belief, has proven indispensable. The fact of evolution is established. The form, the law, the process of evolution, and the forces at work therein, remain subjects of eager technical debate. Or, thirdly, progress might refer to the readjustment of principles occasioned by the acceptance of evolution. This phase of the matter lies more fully within the philosophical field; still it is not the one now suggested for discussion. Our subject proper may be termed the noetic of evolution, the discussion of the concepts and principles implied by evolution, and on which it is based. What progress has been made in respect of these? What was needed? How much has been gained? What remains to be accomplished? Along with these questions, I shall also recall certain phases of the history of opinion.

1. I begin with a negative statement of progress which may excite dissent: a just estimate has not yet been reached of the origin of evolutionary theory. It is common to date the beginning from Darwin. But genetic views were fundamental in nineteenth-century thinking before Darwin announced, in part before he had conceived, "The Origin of Species." Among naturalists a notable minority had been groping their way toward a theory of descent. Spencer, at the mid-century, was advancing from sociology, biology, and psychology, to his cosmical doctrine. Prior to both Darwin and Spencer many of the *Geisteswissenschaften* had felt the influence of idealistic evolution, or had of themselves approached their problems

¹ Read before the American Philosophical Association, Harvard University, December 28, 1911.

by the genetic line of attack. Great as Darwinism was—in itself and through its effects—it may be questioned whether part of its success was not due to the preparation previously made for evolutionary conclusions. This question has special pertinence in regard to the influence of evolution beyond the limits of biology. Concerning this broader field there has been, and there persists, some confusion of opinion. Here, too, Darwin's work has been the greatest single force. But it has not been the only force, or the earliest, or the creative force in the temporal sense of the term. More often—in the phrase of a recent writer²—it has furnished “vast reinforcement” to tendencies already existing.

2. Progress has been made in distinguishing phenomenal from transcendent evolution. Though Darwinism was not the sole cause of the intellectual revolution of the mid-century, it was the principal cause. The movement thus involved a scientific theory. And as we look back to the discussions of the sixties, how few there then were who distinguished between scientific results and transcendent implications. Primarily the issue lay between rival theories of organic life: Are species fixed in nature, or are they mutable, produced by gradual process? But this issue was phrased in terms which combined science and theology: Have species been created once for all, or are they mutable and explicable by descent? The question of phenomenal fact and law was crossed with a transcendent problem.

Related, of course, these questions are. And under the conditions of thought fifty years ago it was inevitable that they should be united. Nevertheless the consequences were disastrous. In regard to them, and concerning a number of kindred questions, the result was extreme confusion. The light engendered by the controversy was small, the heat in inverse ratio. Now, however, we marvel less at the clash of opposing doctrines and the emotional disturbance than at the tacit assumptions which were fundamental to the whole debate. Among these the fallacy under consideration took a prominent place. Neither orthodox nor revolutionary distinguished between phenomenal truths and ultimate interpretations.

From this fallacy later thought is happily delivered. At least, in this connection progress has been making in the sphere of ethics and theology. Whether the gain is equal in philosophy proper appears more doubtful. Fact and notion, law and ultimate principle, differ, whatever the instrument of transcendent thought may be—whether faith or seasoned speculation. But concerning evolution the distinction has been made more clear in the former than in the latter case. Our scientific brethren we can hardly hold re-

² Waggett, “Darwin and Modern Science,” page 480.

sponsible for the confusion—or popular reflection. Have philosophical thinkers always been clear on the point themselves? Have they contributed in due measure to the general enlightenment?

3. Evolution and the sciences. The problem just suggested has various ramifications. Scientific evolution and philosophical evolution touch—and differ. Hence arise questions in the logic of science—on the other hand, also, questions of metaphysical conclusion. Our primary concern is with the problems of the former class, among which the subject of method is first and prominent.

At the end of the “Origin of Species,” Darwin predicted the application of evolution to psychology and anthropology. This prophecy, as all are aware, has been amply fulfilled. The mental sciences like the organic, sociology and ethics as well as psychology proper, have felt the stimulus of genetic ideas; not, however, without doubtful transfers of method and explanatory principle from one science to another, or from the sciences of one group to a group essentially diverse. Biological evolution has wrought out—Darwin, cautious technician that he is, concludes—“the necessary acquirement of each mental power and capacity by gradation.” The struggle for existence determines organic evolution: mental evolution and its sub-varieties—social, ethical, artistic, literary, religious—the extremists urge, must follow the same law.

Here progress has been forced by the continuing inquiry. The phenomena themselves have compelled revision of the categories chosen to explain them. Two examples may be cited in illustration. In moral evolution, as speedily appeared, the law of struggle in its primary form is a doubtful application. It would tend, for one thing, to eliminate rather than to conserve the superior individual. Therefore it was referred to the survival of the group, and competition was interpreted as tribal instead of individual. Later the problem of heredity grew pressing, and in particular the problem of mental inheritance. Here the emphasis has recently been placed on the importance of the social environment, and a return has been made to the doctrine of social heredity—a position, I venture to think, which we should never have abandoned.

Progress then has been making at this point also. Is it, however, complete? Is it so great as is vitally needed for the independent prosperity of the sciences of the mental group? An affirmative answer would be of questionable validity. Undoubtedly the climax has been passed. No longer—or, at least, more rarely—do we explain all things, from theology to summer novels, by natural selection. But biological psychology continues fairly prevalent. And one has even heard echoes of a similar spirit in recent developments of philosophy itself!

4. The presuppositions of evolution: that is, the presuppositions of a noetical kind, the concepts and principles assumed by evolution and on which it depends. Such are present, even in the scientific form of the doctrine, in evolution as a theory of descent. Still more are they present and determinant when the consequences of organic evolution are drawn, when its conclusions are brought to bear upon broader problems, when its methods are applied in other departments of thought. If the matter itself admitted of uncertainty, the doubt might be dispelled by a glance at recent history. Fifty years ago men confused scientific evolution and its transcendent implications. For the most part, also, they overlooked the bases on which their own arguments rested. Consider, *e. g.*, the famous meeting of the British Association at Oxford in 1860. In the discussion between Wilberforce and Huxley the honors lay with the scientific thinker. In ethics, as in science, the biologist showed superior to the bishop. In epistemology, however, were not both at fault? For them, as for most thinkers of the time, the debatable issue was the question of fact: Is man descended from some animal form? The corollaries of the fact, they felt, needed no debate: If man is so descended, man is man no longer. For the underlying notions which condition this conclusion were left out of account; or they were deemed of little moment. Change and becoming, origin and nature, genesis and value—how many thought of these ancient problems as fundamental to nineteenth-century reflection? Yet nothing is clearer, if the matter is thought through to the end, nothing more certain, than that such concepts underlie the whole body of genetic doctrine.

If now we ask what progress has in this respect been made, the answer is complex. In certain ways the advance has been considerable. For the pressure of the questions forced by evolution on the world compelled attention also to their underlying bases. I do not mean to say that this attentive thought has always realized its own procedure. That is rarely true in the history of such movements. More often there is a mingling of methods—reflective thinking, conscious of its own nature and aims, goes hand in hand, or side by side, with processes which may best be described as processes of trial and error, practical attempts at partial readjustment adapted to the needs of given cases. Such processes have in special measure been characteristic of our time. We could not become philosophers at a bound. Or rather, we have philosophized in the happy belief that naught of metaphysics was mingled with our thinking. The origin of species, the descent of man, the genesis of conscience, political, social, religious development—in measure we have thought through, or worked through, or “muddled through” our problems. And though we often knew it not, we have been busy the while with these

other cruces—origin, nature, worth, and their relations—for they were inwrought in the tissue of our reflective task.

Progress has been most pronounced in the field of the mental sciences. A letter of Henry Sedgwick, dated in the middle eighties, well expresses the change from the earlier point of view. Thinking of the non-moral and the moral stages of evolution, Sedgwick wrote: "I can not feel any doubt as to the *historic fact* of the time-relation of the two. . . . But I do not think that the determination of this historical question settles the relation between the two: the fundamental question still remains open whether what is later in time is to be understood by contemplating what went before it, . . . or whether the process of cosmical or of human development is not of such a kind that the significance of the earlier stages is only revealed when we look forward to their end. This, I think, is the deepest question of philosophy in the present stage of thought." The conclusion suggested by the lamented Sidgwick was reached by many thinkers in the closing decades of the century gone, but not by all. On questions of such import scholars will differ, even when the issues have been made clear, and when, so far as may be, they have been thought through. Above all, these causes of divergence produce their maximum effect in ages which, like our own, have felt the spell of great discoveries. But if, in the nature of the case, progress could not be complete, has it been adequate? I fear the answer must be given in the negative. Indeed, if I mistake not, there has been of late considerable reaction toward the earlier and the cruder point of view. Current accounts of evolution and its influence not merely proclaim the universal potency of the genetic method, they appear to imply that no other estimate is possible. At times this conclusion is urged as the unassailable outcome of nineteenth-century reflection. It should rather be termed the position of the mid-century, or of the first decades after the mid-century was passed. For it ignores the progress which the later years have brought.

It is necessary in conclusion to guard against a possible misunderstanding. The thesis that progress has been less than adequate does not imply agreement with venturesome essays of a contrary type. If certain forms of genetic theory ignore their own noetic problems, some philosophers of evolution attack these questions in a spirit of surprising confidence. The question may be raised whether Bergson himself should not be included in the latter class. Mind, Bergson defends in the evolutionary process, and other important interests. But what of the method of defense? It is incisive, it is illuminating, the argument is phrased in a marvelous style, the doctrine is one of those works of genius which get us forward by its stimulating influence, whether or not it can in the end be accepted as true. Is there,

however, sufficient evidence for the conclusions reached? This at least is the doubt which recurs to some of us who welcome many of these conclusions. In the case of other systems the foundations are certainly too weak to support the constructions which are reared upon them. Therefore systems of this type also represent imperfect progress. For they are unstable, and, being unstable, they fail to realize their legitimate aims. In sum the noetic cruxes suggested by evolution can not reasonably be ignored. Neither, on the other hand, are they solvable at a stroke.

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THE FEELING OF OUGHTNESS:

ITS PSYCHOLOGICAL CONDITIONS

THIS JOURNAL having been kind enough to review¹ with some sympathy a paper of mine, which, as Professor Leuba phrased it, was intended to "clear much of the ground surrounding one of the fundamental problems of the psychology of ethics," I venture to submit to American men of science the conclusions of a larger inquiry which is to appear this year in Binet's *Année psychologique*.

The problem is that of the psychological conditions of this specific and well-known state of mind which a subject expresses when he says: "I am conscious that I ought." In a paper² of 1897, Professor Leuba has called it "the feeling of oughtness." I shall use the term, although it seems to me that the latest researches on the psychology of *feelings* tend to confine this word to affective states, where the consciousness is necessarily either agreeable or painful. Writing in French, I have used the expression *la conscience de devoir* or *l'obligation de conscience*.

The feeling of oughtness is not always connected with the impression of moral goodness. I have found it very often in introspections gathered during experiments on judgment and ideation, and was thus put on the way of an experimental study of this feeling such as, if I am not mistaken, has never been conducted before.

The first results concerning this feeling of oughtness in the laboratory experiments are the following:

1. It is the apperception of an internal conflict between two tend-

¹ Vol. VIII., page 361.

² "The Psychophysiology of the Moral Imperative," *Amer. Journal of Psychology*, Vol. VIII., No. 4.